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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,992	11/14/2003	Masatoyo Sogabe	392.1838	7359
21171	7590	08/15/2006	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			LAM, THANH	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 08/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/706,992

Applicant(s)

SOGABE ET AL.

Examiner

Thanh Lam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 6/25/2006 have been fully considered but they are not persuasive.
2. In response to applicant's argument that the references JP '050 fail to disclose "no coils are wound around this element. Instead, coils 7a, 7b and 7c and are wound around teeth sections 5a, 5c and 5f, respectively". Examiner submit that JP '050 clearly disclose the features as refer to fig. 1, the coil 7a (see graphically symbols dot in paper and cross out paper) wound around the teeth 9 where the flux 12 pass through teeth 9.

Regarding argument of claim 2 , the features "each of the auxiliary teeth has a shape to fill a gap between adjacent ones of the coils." Examiner again submit that JP '050 clearly disclose/ shown the features the auxiliary 5b a shape to fill the gap between coils 7a and 7b. therefore, it is anticipated the claimed language of claim 2.

Regarding argument of claim 3, the features as recited "a torque and/or a cogging amount of the electric motor are adjusted by setting of lengths of said auxiliary teeth." Examiner again submit that JP '050 clearly disclose/shown that auxiliary teeth 7a-7c either equal or shorter the main teeth 9. therefore, the same structure it would perform equally as recited functional language of claim 3.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6,8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Irie et al. (JP 04125050 A).

Regarding claim 1, Irie et al. disclose an electric motor comprising: a stator core (1) having main teeth (9, fig. 1) and auxiliary teeth (8), each of the main teeth having a straight end and a constant diameter (clearly shown that the teeth 9 is straight at the end and in rectangular shaped, fig. 1) and each of the auxiliary teeth being formed in a slot (4) between adjacent ones of the main teeth, and coils (7a, 7b) respectively formed around said main teeth with said auxiliary teeth intervening adjacent ones of said coils.

Regarding claim 2, Irie et al. disclose each of said auxiliary teeth has a shape such as to fill a gap (4) between the adjacent ones of said coils (7a,7b).

Regarding claim 3, Irie et al. disclose a torque and/or a cogging amount of the electric motor are adjusted (design or test or measurement words the final product it can not adjusted) by setting of lengths of said auxiliary teeth (the lengths of teeth 5a-5c either equal or shorter the main teeth therefore, it has a certain cogging amount).

Regarding claim 4, Irie et al. disclose an electric motor comprising: a stator core having main teeth (9) and auxiliary teeth (8), each of the main teeth having a straight end and a constant diameter and each of the auxiliary teeth being formed in a slot

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between adjacent ones of the main teeth, and coils respectively formed around said main teeth with said auxiliary teeth intervening adjacent ones of said coils, wherein a torque and/or a cogging amount of the electric motor are adjusted by setting of lengths of said auxiliary teeth and lengths of said auxiliary teeth are set to be maximum values not greater than lengths of said main teeth and with which the electric motor has a cogging amount within an allowable amount (applied the same numerals and explained details as cited in claims 1-3 above).

Regarding claim 5, Irie et al. disclose an electric motor comprising: a stator core having main teeth and auxiliary teeth, each of the main teeth having a straight end and a constant diameter and each of the auxiliary teeth being formed in a slot between adjacent ones of the main teeth; and coils respectively formed around said main teeth with said auxiliary teeth intervening adjacent ones of said coils, wherein a torque and/or a cogging amount of the electric motor are adjusted by setting of lengths of said auxiliary teeth and lengths of said auxiliary teeth are set to be values not greater than lengths of said main teeth and with which the electric motor has a minimum cogging amount (applied the same numerals and explained details as cited in claims 1-3 above).

Regarding claim 6, Irie et al. disclose said stator core has a cylindrical shape to constitute a rotary motor (see fig. 1).

Regarding claim 8, Irie et al. disclose an electric motor comprising: a stator core comprising: a plurality of first teeth, and a second tooth disposed between the first teeth, and a plurality of coils around said first teeth, wherein a length of said second tooth is

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less than lengths of the first teeth so that a cogging amount of the electric motor is a minimum amount (applied the same numerals and explained details as cited in claims 1-3 above).

Regarding claim 1, Irie et al. disclose an electric motor comprising: a stator core comprising: a plurality of first teeth, and a second tooth disposed between the first teeth; and a plurality of coils around said first teeth, wherein a length of said second tooth is less than lengths of said first teeth and corresponds to a minimum cogging amount of the electric motor (applied the same numerals and explained details as cited in claims 1-3 above).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Irie et al. in view of Ohto et al. (US 6831379).

Regarding claim 7, Irie et al. disclose all the aspect of the claimed invention except the stator core has a straight shape to constitute a linear motor.

ohto et al. disclose the stator core has a straight shape to constitute a linear motor (see abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the stator of Irie et al. to accommodate the straight shape stator core as taught by Ohto et al. in order satisfy the improve stator structure in linear motor and reducing cogging.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (571) 272-2026. The examiner can normally be reached on tu-th 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thanh Lam
Primary Examiner
Art Unit 2834
